

Work Order ID 162818

Thursday, June 15, 2017 10:56:18 AM

162818

Page 1

Item ID: D139-799-015 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Engine Wash
Start Date: 6/16/2017 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 6/28/2017 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: DAS 21 Date: JUN 15 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
IIN-D139-799	<u>L</u> <u>M</u>								
100	Document Control	0.00							
100									
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D139-799-015 CHG005 <u>006</u>								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.06							
Quality Control									

2 DAS 6
82
9-89
JUL 21 2017

2 DAS 6
9-89
JUN 21 2017 DAS 27
9-89

2 DAS 28
9-89
JUL 21 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

Work Order ID 162818

Thursday, June 15, 2017 10:56:18 AM

162818

Page 2

Item ID: D139-799-015

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Engine Wash

Start Date: 6/16/2017 Start Qty: 2.00

2

Cust Item ID:

Required Date: 6/28/2017 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: _____	0.00				2			
130							DAS 28 9-89		
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D139-799-015 Location: _____ PPP rev: _____								
	fs 018								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.20							
Quality Control									

JUL 21 2017

17/7/24

JUL 21 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

Picklist Print

Thursday, June 15, 2017 10:56:24 AM

Page 1

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:B 11.07.04 new issue DD verf:JLM IPP REV:B
AS PER ECN 11-598 11-06-05 JLM VERF BY:DD IPP Rev:C 11.09.27
PER CHG003 DD verf:EC IPP Rev:D 13.09.24 PER
CHG005/ECN13-579 DD verf:JLM IPP REV:E 16.10.13 AS PER IIN
REV.L DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C3A *AN3C3A* Bolt		Purchased	No			110	Each	24.0000	4 **	8		JUN 21 2017	DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				GA				7					
				m136182				7					
				ST350				17					
				m137886				17		8			
AN3C5A *AN3C5A* Bolt		Purchased	No			110	Each	938.0000	3 **	6		JUN 21 2017	DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				FG				5					
				122800				5					
				FP001				660					
				M136182				1					
				M136579				2					
				M137361				657					
				OVER002				200					
				M137710				200					
				ST350				73					
				M134676				1					
				M135442				72		6			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
		OTHER :							

Picklist Print

Thursday, June 15, 2017 10:56:24 AM

Page 2

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

AN526-1032R16

Purchased

No

110

Each

117.0000

4 8

AN526-1032R16

Screw

DAS
28
9-89

Location

Loc Qty

Loc Code

ST326

117

m134702

117

110

Each

3.0000

2 4

AN832-6J

Purchased

No

AN832-6J

Union

DAS
28
9-89

Location

Loc Qty

Loc Code

ST324

3

m137361

3

110

Each

28.0000

4 8

AN924-6J

Purchased

No

AN924-6J

NUT

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

4

123245

2

m132256

2

ST322

24

m137785

24

110

Each

55.0000

3 6

CB2000CRA3-28

Purchased

No

CB2000CRA3-28

Stud

DAS
28
9-89

Location

Loc Qty

Loc Code

ST558

55

m136485

55

**

**

**

**

JUN 21 2017

JUN 21 2017

JUN 21 2017

JUN 21 2017

DAS
6
9-89

DAS
6
9-89

DAS
6
9-89

DAS
6
9-89

DAS
27
9-89

DAS
27
9-89

DAS
27
9-89

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Thursday, June 15, 2017 10:56:24 AM

Page 3

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

CB4022V3CR8

Purchased No

110 Each 5.0000

CB4022V3CR8

Anchor Nut

DAS
28
9-89

** 3 6
M137320x1 JUN 21 2017-89 DAS 27 9-89

Location Loc Qty Loc Code
ST558 5

m136986

5

CB91

Purchased No

110 Each 41.0000

CB91

Acrylic Adhesive, 3.5g

DAS
28
9-89

** 2 4
JUN 21 2017 DAS 27 9-89

Location Loc Qty Loc Code
PK 41

m135936

1

m136936

40

D4121-1

Manufactured No

110 Each 3.0000

D4121-1

Hose Assembly

DAS
28
9-89

** 2 4
JUN 21 2017 DAS 27 9-89

Location Loc Qty Loc Code
FG 1

114101

1

ST213

2

162678

2

D4121-3

Manufactured No

110 Each 2.0000

D4121-3

Hose Assembly

DAS
28
9-89

** 1 2
JUN 21 2017 DAS 27 9-89

Location Loc Qty Loc Code
FG 1

91535

1

ST213

1

159125

1

Thursday, June 15, 2017 10:56:25 AM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Thursday, June 15, 2017 10:56:25 AM

Page 4

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

D4121-5
D4121-5
Hose Assembly

Manufactured No 110 Each 2.0000

** 2 DAS 27
9-89 JUN 21 2017 9-89

Location Loc Qty Loc Code

ST213 2
159126 2

D4131-041
D4131-041
Manifold Assembly
D4131-043
D4131-043
Doubler Assembly

Manufactured No 110 Each 0.0000

** 2 DAS 27
9-89 JUN 21 2017 9-89

Manufactured No 110 Each 2.0000

** 2 DAS 27
9-89 JUN 21 2017 9-89

Location Loc Qty Loc Code

ST085 2
157329 2

D4146-1
D4146-1
Fitting

Manufactured No 110 Each 12.0000

** 4 DAS 27
9-89 JUN 21 2017 9-89

Location Loc Qty Loc Code

ST085 12
162323 12

D4182-1
D4182-1
Fitting, Quick Disconnect

Manufactured No 110 Each 0.0000

** 4 DAS 27
9-89 JUN 21 2017 9-89

DAS 28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Thursday, June 15, 2017 10:56:25 AM

Page 5

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

D4384-1 Manufactured No

110

Each

13.0000

2

D4384-1

Placard

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

5

80679

5

ST095

8

162736

8

MS21043-3

Purchased

No

110

Each

685.0000

8

MS21043-3

Nut

DAS
28
9-89

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

119

m136182

119

GA

88

m136182

88

OVER007

300

m137587

300

ST302

98

m137459

98

MS21043L3

MS21043-3

Purchased

No

110

Each

0.0000

12

MS21043L3

Nut

DAS
28
9-89

MS21919WCH16

Purchased

No

110

Each

0.0000

4

MS21919WCH16

Clamp

DAS
28
9-89

MS21919WCH4

Purchased

No

110

Each

0.0000

4

MS21919WCH4

Clamp

DAS
28
9-89

Thursday, June 15, 2017 10:56:25 AM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER : ☐																									

Picklist Print

Thursday, June 15, 2017 10:56:25 AM

Page 6

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

MS21919WCH9 Purchased No

110

Each

0.0000

4

8

**

137820

DAS

JUN 21 2017

DAS

27

9-89

Clamp

MS21919-WDG9

Purchased

No

110

Each

114.0000

9

18

**

JUN 21 2017

DAS

27

9-89

MS21919-WDG9

Clamp

DAS
28
9-89

Location

Loc Qty

Loc Code

over008

100

m137736

100

ST293

14

m136975

14

110

Each

404.0000

6

12

**

DAS

6

9-89

JUN 21 2017

DAS

27

9-89

NAS1149C0316R

AN960C10LL

Purchased

No

NAS1149C0316R

WASHER

DAS
28
9-89

Location

Loc Qty

Loc Code

ST266

404

m136511

404

110

Each

3,268.000

8

16

**

DAS

6

9-89

JUN 21 2017

DAS

27

9-89

NAS1149C0332R

Purchased

No

NAS1149C0332R

WASHER

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

1690

m137597

1690

GA

514

m133284

22

m136444

492

ST266

1064

m137381

1064

Thursday, June 15, 2017 10:56:25 AM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Thursday, June 15, 2017 10:56:25 AM

Page 7

Work Order ID: 162818

162818

Parent Item: D139-799-015

D139-799-015

Parent Item Name: Engine Wash

Start Date: 6/16/2017

Required Date: 6/28/2017

Start Qty: 2.00

Required Qty: 2.00

NAS1149C0932R

Purchased

No

110

Each

52.0000

4 8

DAS

NAS1149C0932R

WASHER

DAS
28
9-89

Location

Loc Qty

Loc Code

ST265

52

m134702

52

NAS43DD3-80N

NAS43DD3-
68FC

Purchased

No

110

Each

5.0000

3 6

NAS43DD3-80N

Spacer

DAS
28
9-89

Location

Loc Qty

Loc Code

ST550

5

m136511

5

**

**

DAS

27

9-89

JUN 21 2017

DAS

6

9-89

JUN 21 2017

DAS

27

9-89

DAS

27

9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

Qty -015	Part Number	Description
X	D139-799-015	ENGINE WASH KIT
2	D4121-1	HOSE ASSEMBLY
1	D4121-3	HOSE ASSEMBLY
1	D4121-5	HOSE ASSEMBLY
1	D4131-041	MANIFOLD ASSEMBLY
1	D4131-043	DOUBLER ASSEMBLY
2	D4148-1	FITTING
2	D4182-1	FITTING, QUICK DISCONNECT
1	D4384-1	PLACARD
3	AN3C5A	BOLT (or NAS6603-4)
4	AN3C3A	BOLT
4	AN526-1032R16	SCREW
2	AN832-6J	UNION (or AN837-6J)
4	AN924-6J	NUT
10	MS21043-3	NUT
4	NAS1149C0932R	WASHER (or AN960C916L)
8	NAS1149C0332R	WASHER (or AN960C10L)
6	NAS1149C0316R	WASHER (or AN960C10LL)
3	NAS43DD3-80N	SPACER
9	MS21919WDG09	CLAMP (or AS21919WDG09)
2	MS21919WCH4	CLAMP (or AS21919W CH4)
4	MS21919WCH9	CLAMP (or AS21919W CH9)
2	MS21919WCH16	CLAMP (or AS21919W CH16)
3	CB2000CRA3-28	STUD (or A366A3E30C)
3	CB4022V3CR8	ANCHOR NUT (or AW001TL3A08)
2	CB91	3.5g ACRYLIC ADHESIVE KIT

Work Order ID 162818

Thursday, June 15, 2017 10:56:18 AM

162818

Page 1

Item ID: D139-799-015

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Engine Wash

Start Date: 6/16/2017 Start Qty: 2.00 ***2***

Cust Item ID:

Required Date: 6/28/2017 Req'd Qty: 2.00 ***2***

Customer:

Reference:

Approvals: Process Plan: Date: **JUN 15 2017**Tooling: Date: Run Start ***NR1***QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
IIN-D139-799	L

JUN 19 2017**DAS
6
9-89**

100	Document Control	0.00							
-----	------------------	------	--	--	--	--	--	--	--

100

DC

Doc.Control -USB or Paperwork

Memo

0.00

Photocopy bluefile & type labels per PPP D139-799-015

~~CHG005~~ **CHG006**
See attached*2****DAS
5
9-89****JUL 21 2017**

110	Pick Kit	0.00							
-----	----------	------	--	--	--	--	--	--	--

110

Packaging

Packaging

Memo

0.00

2**DAS
6
9-89****JUN 21 2017****DAS
27
9-89**

120	QC4- 100% inspect kits for completeness	0.00							
-----	---	------	--	--	--	--	--	--	--

120

QC

Quality Control

Memo

0.06

2**DAS
28
9-89****JUL 21 2017**

Supplemental Type Certificate

Number SR02138SE

This certificate, issued to

Dart Aerospace USA, Inc.
190 S. Danebo Ave.
Eugene, OR 97402

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 29 of the Federal Aviation Regulations.

Original Product—Type Certificate Number: R00002RD
Make: Agusta
Model: AB139, AW139

Description of the Type Design Change: Installation of Dart D139-799 Maintenance Kits fabricated in accordance with Dart Master Document List MDL-D139-799, Revision C, dated June 6, 2010, or later Federal Aviation Administration (FAA) approved revision, Installed in accordance with Dart Installation Instructions IIN-D139-799, Revision D, dated June 10, 2011, or later FAA-approved revision, and Maintained in accordance with Dart Instructions for Continued Airworthiness ICA-D139-799, Revision 3, dated May 5, 2011, or later FAA-accepted revision.

Limitations and Conditions: Approval of this change in type design applies to the rotorcraft listed above only. This approval should not be extended to other rotorcraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of the other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of the rotorcraft. A copy of this certificate and the ICA must be maintained as part of the permanent records of the modified rotorcraft.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: October 5, 2010

Date reissued: October 28, 2015

Date of issuance: July 18, 2011

Date amended:



By direction of the Administrator

[Signature]
(Signature)

[Signature]
Manager, Seattle Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

Change Record

PAGE 1 OF 1

Part Number: D139-799-015

Description: ENGINE WASH

[illegible]